



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1234; Project Identifier MCAI-2022-00289-E; Amendment 39-22280; AD 2022-26-02]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG (Type Certificate previously held by Rolls-Royce plc) Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2013-05-13 for certain Rolls-Royce Deutschland Ltd & Co KG (RRD) BR700-710 series turbofan engines. AD 2013-05-13 required replacing the affected fuel pump splined couplings. Since the FAA issued AD 2013-05-13, the manufacturer has revised the time limits manual (TLM), introducing new and more restrictive instructions, including the replacement of the fuel pump splined coupling. This AD is prompted by service experience that demonstrated premature wear of the splined coupling on the fuel pump and subsequent manufacturer revision of the TLM to incorporate revised life limits and updated mandatory inspection intervals, including replacement of the fuel pump splined coupling. This AD expands the applicability by adding a model turbofan engine and also requires revisions to the airworthiness limitations section (ALS) of the operator's existing approved aircraft maintenance program (AMP), as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1234; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For EASA material identified in this final rule, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu.

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1234.

FOR FURTHER INFORMATION CONTACT: Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; email: Sungmo.D.Cho@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2013-05-13, Amendment 39-17385 (78 FR 17080, March 20, 2013) (AD 2013-05-13). AD 2013-05-13 applied to certain RRD BR700-710 series turbofan engines. AD 2013-05-13 required replacing the affected fuel pump splined couplings. The FAA issued AD 2013-05-13 to prevent failure of the engine and loss of the airplane.

The NPRM published in the *Federal Register* on September 26, 2022 (87 FR 58289). The NPRM was prompted by EASA AD 2022-0033, dated March 03, 2022 (EASA AD 2022-0033) (referred to after this as “the MCAI”), issued by EASA, which is the Technical Agent for the Member States of the European Union. EASA AD 2022-0033 states that since the certification of the BR700-710 engines, several changes have been made to the TLM by the manufacturer, introducing new and more restrictive instructions, including the replacement of the fuel pump splined coupling. EASA AD 2022-0033 expands the applicability to include BR700-710D5-21 model turbofan engines and specifies accomplishing the actions in the TLM.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1234.

In the NPRM, the FAA proposed to expand the applicability to include BR700-710D5-21 model turbofan engines. In the NPRM, the FAA also proposed to require accomplishing the actions specified in EASA AD 2022-0033, described previously, except for any difference or exceptions identified in the NPRM. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received one comment from an anonymous commenter that supported the NPRM without change.

Conclusion

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

Related Service Information under 1 CFR Part 51

The FAA reviewed EASA AD 2022-0033, which describes actions for operators to revise the ALS of their existing approved AMP in accordance with the manufacturer's revised TLM, as applicable to each engine model. EASA AD 2022-0033 also describes actions for performing inspections, replacing life limited parts, and performing corrective actions for any finding of discrepancy as referenced in the TLM.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Other Related Service Information

The FAA also reviewed RRD Non-Modification Service Bulletin (NMSB) BR700-72-A900509, Revision 5, dated March 07, 2022. This service information revises previous versions of this NMSB because the specified procedures have been incorporated into the applicable TLM.

The FAA also reviewed Rolls-Royce TLM T-710-1BR, Revision 70, for engine model BR700-710A1-10; TLM T-710-2BR, Revision 67, for engine model BR700-710A2-20; TLM T-710-4BR, Revision 40, for engine model BR700-710C4-11 (each dated October 13, 2021); and TLM T-710-8BR, Revision 18, for engine model BR700-710D5-21 (undated). This service information specifies thresholds for certain standard equipment; critical, sensitive, and unclassified parts; and life limited parts. This service information also specifies the replacement threshold for the fuel pump vespel coupling (fuel pump splined coupling).

Costs of Compliance

The FAA estimates that this AD affects 2,050 engines installed on airplanes of U.S. Registry. The FAA estimates that 1,350 engines installed on airplanes of U.S. Registry have already performed the initial replacement of the fuel pump splined coupling.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Initial Replacement of the fuel pump splined coupling.	6 work-hours x \$85.00 per hour = \$510	\$2,273	\$2,783	\$1,948,100
Revise the ALS and the operator's existing approved AMP.	2 work-hours x \$85.00 per hour = \$170	\$0	\$170	\$348,500

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive 2013-05-13, Amendment 39-17385 (78 FR 17080, March 20, 2013); and

- b. Adding the following new airworthiness directive:

2022-26-02 Rolls-Royce Deutschland Ltd & Co KG (Type Certificate previously held by Rolls-Royce plc): Amendment 39-22280; Docket No. FAA-2022-1234; Project Identifier MCAI-2022-00289-E.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2013-05-13, Amendment 39-17385 (78 FR 17080, March 20, 2013).

(c) Applicability

This AD applies to Rolls-Royce Deutschland Ltd & Co KG BR700-710A1-10, BR700-710A2-20, BR700-710C4-11, and BR700-710D5-21 model turbofan engines as identified in European Union Aviation Safety Agency (EASA) AD 2022-0033, dated March 03, 2022 (EASA AD 2022-0033).

(d) Subject

Joint Aircraft Service Component (JASC) Code 8300, Accessory Gearboxes.

(e) Unsafe Condition

This AD was prompted by service experience that demonstrated premature wear of the splined coupling on the fuel pump and subsequent manufacturer revision of the time limits manual (TLM) to incorporate revised life limits and updated mandatory inspection intervals, including replacement of the fuel pump splined coupling. The FAA is issuing this AD to prevent premature wear of the splined coupling on the fuel pump. The unsafe condition, if not addressed, could result in failure of the engine and loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Action

Except as specified in paragraphs (h) and (i) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, EASA AD 2022-0033.

(h) Exceptions to EASA AD 2022-0033

(1) Where EASA AD 2022-0033 defines the AMP as the approved Aircraft Maintenance Programme on the basis of which the operator or the owner ensures the continuing airworthiness of each operated engine, this AD defines the AMP as the Aircraft Maintenance Program on the basis of which the operator or the owner ensures the continuing airworthiness of each operated airplane.

(2) Where EASA AD 2022-0033 refers to the effective date of EASA AD 2022-0033, this AD requires using the effective date of this AD.

(3) This AD does not require compliance with paragraph (1.2) of EASA AD 2022-0033.

(4) This AD does not require compliance with paragraph (2) of EASA AD 2022-0033.

(5) Where paragraph (3) of EASA AD 2022-0033 specifies revising the approved AMP within 12 months after its effective date, this AD requires incorporating the actions and associated thresholds and intervals, including life limits and maintenance tasks, into the existing approved maintenance or inspection program, as applicable, within 30 days of the initial replacement of the fuel pump splined coupling or within 90 days after the effective date of this AD, whichever comes later.

(6) This AD does not require compliance with paragraph (4) of EASA AD 2022-0033.

(7) This AD does not require compliance with paragraph (5) of EASA AD 2022-0033.

(8) This AD does not adopt the Remarks paragraph of EASA AD 2022-0033.

(i) Provisions for Alternative Actions, Thresholds, and Intervals, including Life Limits

After performing the actions required by paragraph (g) of this AD, no alternative actions and associated thresholds and intervals, including life limits, are allowed unless

they are approved as specified in the provisions of the “Ref. Publications” section of EASA AD 2022-0033.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD and email to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Additional Information

For more information about this AD, contact Sungmo Cho, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7241; email: Sungmo.D.Cho@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency AD 2022-0033, dated March 03, 2022.

(ii) [Reserved]

(3) For EASA AD 2022-0033, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: ADs@easa.europa.eu. You may find this material on the EASA website at ad.easa.europa.eu.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on December 7, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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